

STUDIES IN THE EUPATORIEAE (COMPOSITAE). XXVIII.

THE GENUS PRAXELIS

R. M. King and H. Robinson  
Smithsonian Institution, Washington, D.C. 20560

A group of sparingly branched South American species with highly conical receptacles have often been distinguished under the names Praxelis or Ooclinium. Many of the species are notable for the long scapose heads with easily deciduous phyllaries which make the receptacles very prominent. There have been some problems, however, in defining the limits of the group.

Although often placed remote from each other as sections of the genus Eupatorium, Praxelis and Chromolaena (including section Cylindrocephala) are actually very closely related. We here define Praxelis as those species which have distinctly enlarged cells in the carpodium, a very high conical receptacle, more flattened achenes, and less distinct rows of phyllaries. On this basis some of the species that have been placed in Praxelis prove to be Chromolaena.

In the area of greatest concentration of the genus, Brazil, there are two closely related monotypic genera. Praxeliopsis G.M. Barroso is distinguished by the reduced pappus setae. Eupatoriopsis Hieronymus has the pappus reduced to a short fringe but also has very broad flat obcordate achenes.

A few characters help to show the relationships between the genera. In most of the species there is a characteristic anther collar with a broader base and annular thickenings which run vertically in some cells. The papillosity on the inner surface of the corolla lobes continues well down the inside of the corolla tube in Praxelis, Eupatoriopsis and some species of Chromolaena. In most species in this group of genera the apex of the anther appendage is rather serrate, but this condition becomes extreme in the highly lobed appendages of a few species of Praxelis.

Praxelis Cassini, Dict. Sci. Nat. 43: 261. 1826

Haberlea Pohl ex Baker in Martius, Fl. Bras. 6(2): 341.  
1876.

Ooclinium A. P. Decandolle, Prod. 5: 133. 1836.

Eupatorium Section Praxelis (Cass.) Benth.

Sparingly branched herbs or subshrubs; leaves opposite, ovate to elliptical, margin subentire to sharply serrate.

Inflorescence monocephalic to very laxly corymbose; heads 25-30 flowered; involucre of 15-25 long imbricate, unequal deciduous phyllaries in 3-4 series; receptacle highly conical, glabrous. Corolla tubular with scarcely constricted base; outer surface smooth with some projecting cells usually at tips of lobes, with a few glands, without stomates; inner surface of lobes papillose with a dense layer of long projecting cells, cells inside of corolla tube narrow with sinuous walls with upper ends projecting. Anther collar composed of numerous quadrate cells below, elongate cells above, all with prominent ornate banding on walls, bands transverse in elongate cells and oblique or vertical in many of the short cells; exothecial cells mostly about as long as wide; anther appendage large, usually toothed but sometimes highly dissected at apex; pollen spherical, tricolpate, spinose. Style without basal node; surface cells of stylar appendage long projecting. Achene flattened, 3-4 costate, bearing scattered setae on costae and surfaces; carpopodium distinct, highly asymmetric, cells clear, quadrate or elongate with thin firm walls; embryo usually borne high in the achene on a distinct highly vascularized stalk, lower end of embryo projecting below insertion of stalk and partially sclerotized, basal vasculature of achene united to well above level of carpopodium; pappus of ca. 40 slender, scabrous, persistent setae, with pointed apical cells. Chromosome number determined as  $X = 20$  (Turner & Irwin, 1960).

Type species: Praxelis villosa Cassini = P. pauciflora (H.B.K.) R.M.King & H.Robinson.

Our studies indicate that the genus contains the following thirteen species.

Praxelis asperulacea (Baker) R.M.King & H.Robinson, comb. nov.

Eupatorium asperulaceum Baker in Mart., Fl. Bras. 6(2): 292. 1876. Brasil.

Praxelis basifolia (Malme) R.M.King & H.Robinson, comb. nov.

Eupatorium basifolium Malme, Arkiv. Bot. Stockh. 24A, No 8, 30. 1932. Brasil.

Praxelis capillaris Sch.-Bip., Pollichia 22-24: 254. 1866.

Brasil.

Praxelis clematidea (Griseb.) R.M.King & H. Robinson, comb. nov.

Eupatorium clematideum Griseb. in Goett., Abh. 19: 172. 1879. Argentina, Bolivia.

Praxelis conoclinantha (Hieron.) R.M.King & H.Robinson, comb.

nov. Eupatorium conoclinanthium Hieron., Engl. Bot. Jahrb. 40: 388. 1908. Bolivia.

Praxelis grandiflora (A.P.Decandolle) R.M.King & H.Robinson,

comb. nov. Ooclinium grandiflorum A.P.Decandolle, Prodr. 5: 134. 1836. Brasil.

Praxelis insignis (Malme) R.M.King & H.Robinson, comb. nov.  
Eupatorium insigne Malme, Arkiv. Bot. Stockh. 24 (8): 28. 1932. Brasil.

Praxelis karuaiensis (Badillo) R.M.King & H.Robinson, comb. nov.  
Eupatorium karuaiense Badillo, Bot. Soc. Venezolana Cienc. Nat. 10: 294. 1946. Venezuela.

Praxelis kleinioides (H.B.K.) Sch.-Bip., Pollichia 22-24: 254. 1866. Eupatorium kleinioides H.B.K., Nov. Gen. et Sp. 4: 120. ed. fol. 1818. Bolivia, Brasil, Colombia, Peru, Venezuela.

Praxelis missiona (Malme) R.M.King & H.Robinson, comb. nov.  
Eupatorium missionum Malme, Arkiv. Bot. Stockh. 24 A (6): 35. 1932. Argentina, Brasil.

Praxelis odontodactyla (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium odontodactylum B.L.Robinson, Contr. Gray Herb. n.s. 75: 10. 1925. Brasil.

Praxelis ostenii (B.L.Robinson) R.M.King & H.Robinson, comb. nov.  
Eupatorium ostenii B.L.Robinson, Ostenia 356. 1933. Paraguay.

Praxelis pauciflora (H.B.K.) R.M.King & H.Robinson, comb. nov.  
Eupatorium pauciflorum H.B.K., Nov. Gen. et Sp. 4: 120. ed. fol. 1818. Brasil, Colombia, Peru, Venezuela.

#### Literature Cited

Turner, B. L. & H. S. Irwin. 1960. Chromosome numbers in the Compositae II. Meiotic counts for fourteen species of Brazilian Compositae. Rhodora 62: 122-126.